California Cooperative
Snow Surveys
Bulletin 120-92

State of California
The Resources Agency

Department of
Water Resources

Water Conditions in California

Report 2 March 1, 1992

Douglas P. Wheeler
Secretary for Resources
The Resources Agency

Pete Wilson
Governor
State of California

David N. Kennedy
Director
Department of Water Resources

STATE OF CALIFORNIA

Pete Wilson, Governor

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COOPERATING AGENCIES

Public Agencies

Buena Vista Water Storage District
Central California Irrigation District
East Bay Municipal Utility District
Friant Water Users Association
Kaweah Delta Water Conservation District
Kern Delta Water District
Kings River Conservation District
Lower Tule River Irrigation District
Merced Irrigation District
Modesto Irrigation District
Nevada Irrigation District
North Kern Water Storage District
Northern California Power Agency
Oakdale Irrigation District
Omochumne-Hartnell Water District
Oroville-Wyandotte Irrigation District
Placer County Water Agency
Sacramento Municipal Utility District
South San Joaquin Irrigation District
Tri-Dam Project
Tulare Lake Basin Water Storage District
Turlock Irrigation District
Yuba County Water Agency

Private Organizations

J.G. Boswell Company
Kaweah River Association
Kings River Water Association
St. Johns River Association
Tule River Association
U.S. Tungsten Corporation
State Water Contractors

Public Utilities

Pacific Gas and Electric Company
Southern California Edison Company
Sierra Pacific Power Company

Municipalities

City of Bakersfield
Water Department
City of Los Angeles
Department of Water and Power
City and County of San Francisco
Hetch Hetchy Water and Power

State Agencies

California Department of Forestry
& Fire Protection
California Department of Water Resources

Federal Agencies

U.S. Department of Agriculture
Forest Service(14 National Forests)
Pacific Southwest Forest and Range
Experiment Station
Soil Conservation Service
U.S. Department of Commerce
National Weather Service
U.S. Department of Interior
Bureau of Reclamation
Geological Survey, Water Resources
Division
National Park Service(3 National Parks)
U.S. Department of Army
Corps of Engineers

Other Cooperative Programs

Nevada Cooperative Snow Surveys
Oregon Cooperative Snow Surveys

SUMMARY OF WATER CONDITIONS

MARCH 1, 1992

For the first time in February since 1986 precipitation has been above average. The series of storms that began about the tenth of February increased California's statewide snowpack from less than half to just under three-quarters of average. Heaviest snowfall amounts fell in the northern mountains. As a result the water supply outlook has brightened considerably. However, February precipitation was not enough to erase the seasonal deficit of the preceding three months. The fact remains that our water supply is still forecast to be well below normal.

FORECASTS of statewide April through July runoff is now expected to be 60 percent of average. This is a 10 percent increase over the forecasted runoff a month ago.

SNOWPACK water content rose from 45 to 70 percent of average during February. Even though water content of the pack is several times greater than it was a year ago and 25 percent more than it was at the beginning of February, it is still below average. Greatest amounts, about 75 percent of average, are in the Sacramento Basin while the North Lahontan snowpack water content is lowest - about 55 percent of average.

PRECIPITATION in February averaged 160 percent statewide and ranged from about half of average in some northeastern areas to over three times normal in parts of Southern California.

RUNOFF to date statewide increased from about 25 to 40 percent of normal during February. The heavy rains produced above normal runoff in South Coast and southern Central Coast streams allowing some local water agencies to fill their reservoirs to a level that allows them to suspend rationing.

RESERVOIR STORAGE increased from 55 to 65 percent statewide. Wide regional variations in storage conditions exist ranging from about 15 percent in the North Lahontan area to 110 percent in the South Coast area where reservoirs are used largely to regulate imported water supplies. The large reservoirs of the Sacramento Basin are holding about two thirds of the usual supplies.

SUMMARY OF WATER CONDITIONS

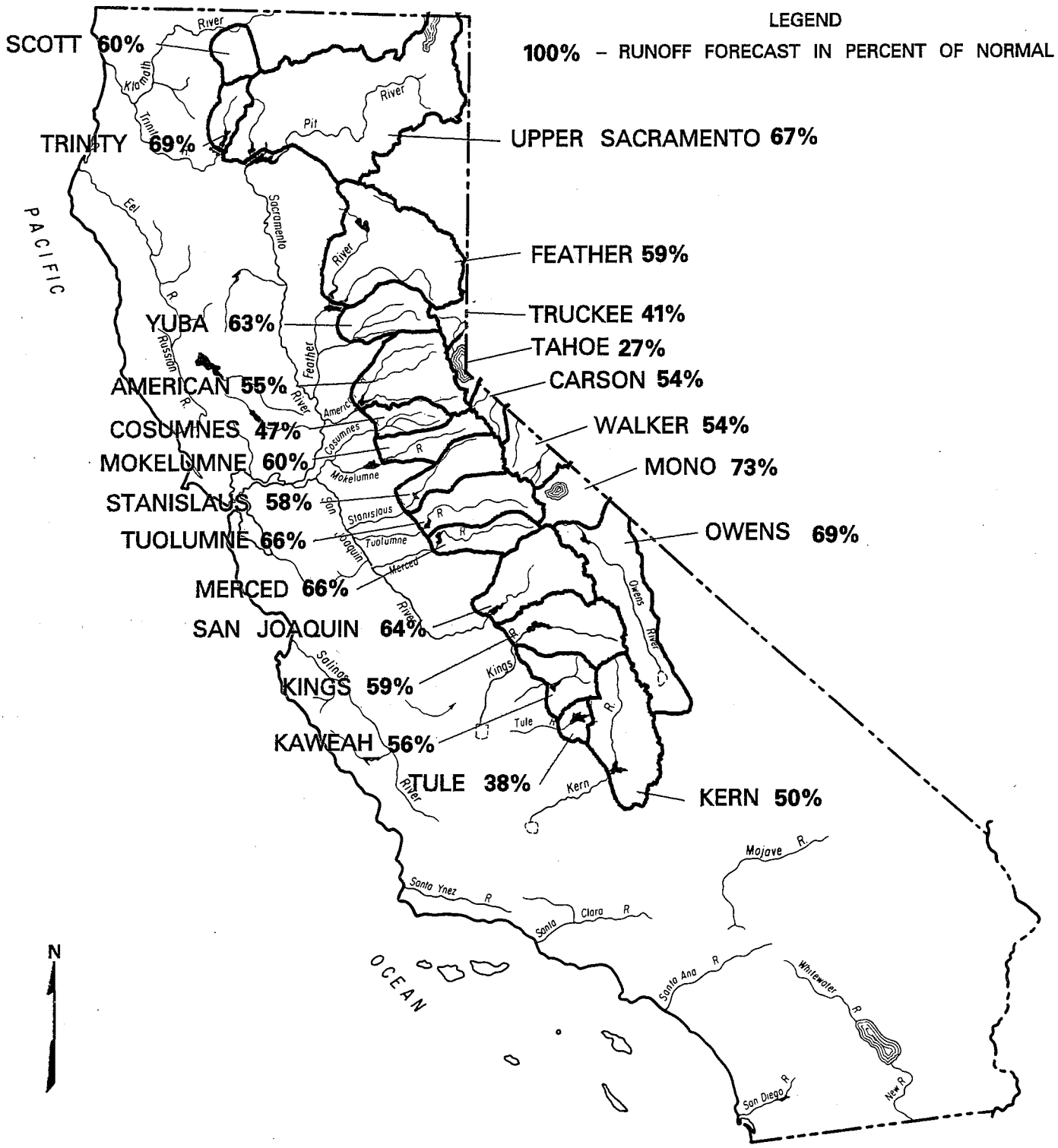
IN PERCENT OF AVERAGE

HYDROGRAPHIC AREA	PRECIPITATION OCTOBER 1 TO DATE	SNOW WATER CONTENT	RESERVOIR STORAGE	OCTOBER 1 RUNOFF TO DATE	APRIL-JULY RUNOFF FORECAST	WATER YEAR RUNOFF FORECAST
NORTH COAST	60	75	45	30	65	55
SAN FRANCISCO BAY	85	--	80	30	--	--
CENTRAL COAST	115	--	50	60	--	--
SOUTH COAST	125	--	110	125	--	--
SACRAMENTO BASIN	75	75	65	45	60	55
SAN JOAQUIN BASIN	80	65	65	40	65	55
TULARE LAKE BASIN	85	60	45	40	55	55
NORTH LAHONTAN	55	55	15	50	50	50
SOUTH LAHONTAN	120	60	80	55	70	65
COLORADO DESERT	155	--	--	--	--	--
STATEWIDE	85	70	65	40	60	55

FORECAST OF APRIL – JULY

UNIMPAIRED SNOWMELT RUNOFF

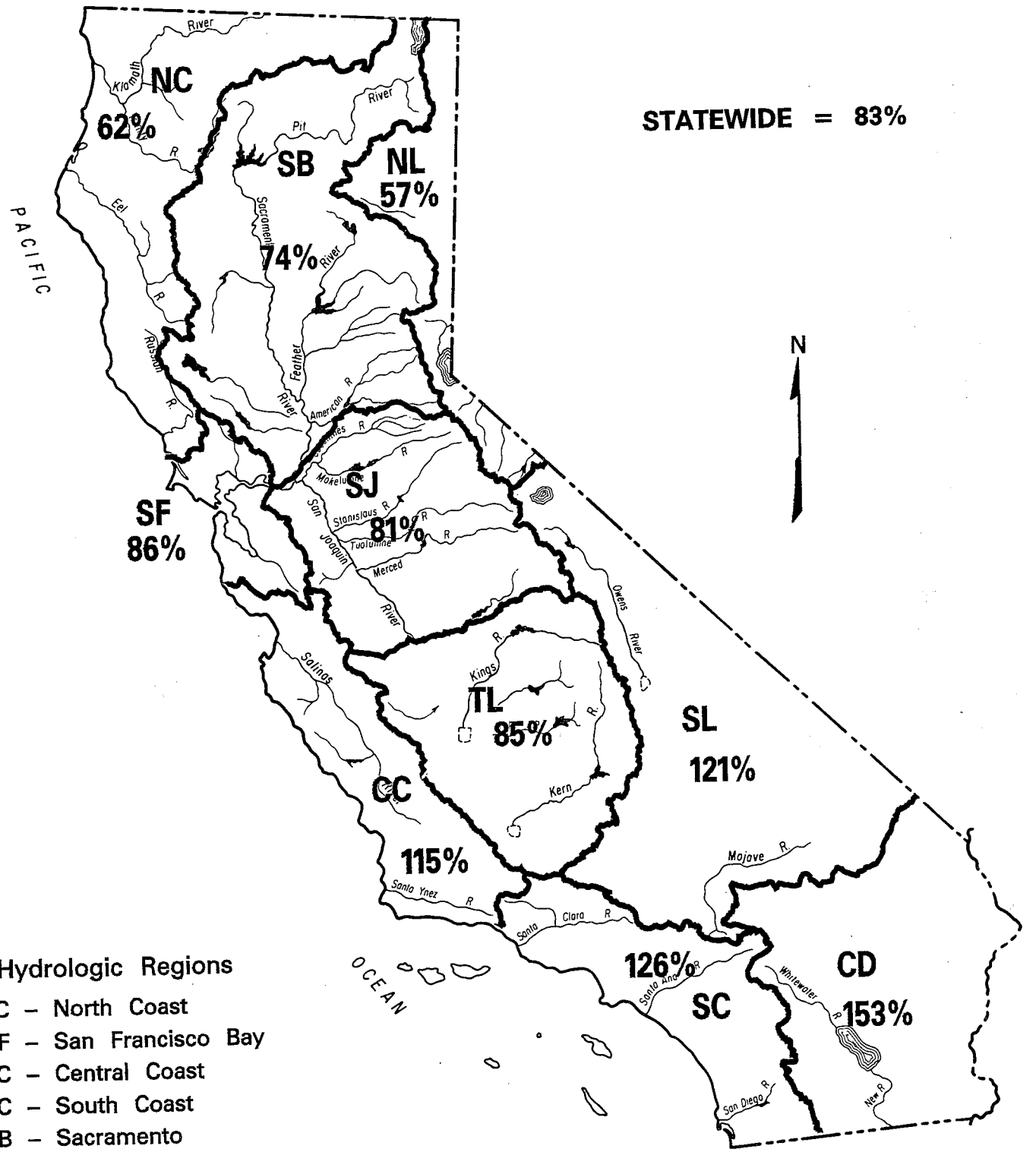
MARCH 1, 1990



SEASONAL PRECIPITATION

IN PERCENT OF AVERAGE TO DATE

OCTOBER 1,1991 TO FEBRUARY 29, 1992



STATEWIDE = 83%

Hydrologic Regions

NC – North Coast
SF – San Francisco Bay
CC – Central Coast
SC – South Coast
SB – Sacramento
SJ – San Joaquin
TL – Tulare Lake
NL – North Lahontan
SL – South Lahontan
CD – Colorado Desert

WATER YEAR IS OCTOBER 1 THROUGH SEPTEMBER 30

FORECASTS OF APRIL-JULY UNIMPAIRED RUNOFF FOR CENTRAL VALLEY STREAMS MARCH 1, 1992

DRAINAGE BASIN AND WATERSHED	April through July Unimpaired Runoff in 1,000 Acre-Feet					
	HISTORICAL			FORECASTS		
	50 Year Average	Maximum of Record	Minimum of Record	April-July Forecast	Percent of Average	80% Prob. Range
SACRAMENTO RIVER BASIN						
Upper Sacramento River						
Sacramento River at Shasta Lake	297	702	39	220	74	
McCloud River at Shasta Lake	411	850	185	270	66	
Pit River at Shasta Lake	1,062	1,796	480	680	64	
Total inflow to Shasta Lake	1,824	3,189	726	1,220	67	930-1,900
Sacramento River above Bend Bridge, near Red Bluff	2,491	4,674	943	1,600	64	1,250-2,600
Feather River						
Feather River at Lake Almanor near Pratville	333	675	120	220	66	
North Fork at Pulga	1,028	2,416	243	650	63	
Middle Fork near Clio (3)	86	518	4	25	29	
South Fork at Ponderosa Dam	110	267	13	65	59	
Total inflow to Oroville Reservoir	1,857	4,676	392	1,100	59	700-1,950
Yuba River						
North Yuba below Goodyears Bar	286	647	51	180	63	
Inflow to Jackson Mdws and Bowman Reservoirs	112	236	25	70	63	
South Yuba at Langs Crossing	233	481	57	150	64	
Yuba River at Smartville	1,047	2,424	200	660	63	420-1,200
American River						
North Fork at North Fork Dam	262	716	43	140	53	
Middle Fork near Auburn	522	1,406	100	300	57	
Silver Creek below Camino Diversion Dam	173	386	37	100	58	
Total inflow to Folsom Reservoir	1,284	3,074	229	710	55	420-1,350
Sacramento River at Sacramento						
SAN JOAQUIN RIVER BASIN						
Cosumnes River at Michigan Bar	129	363	8	60	47	30-140
Mokelumne River						
North Fork near West Point (4)	437	829	104	260	59	
Total inflow to Pardee Reservoir	465	1,065	102	280	60	190-460
Stanislaus River						
Middle Fork below Beardsley Dam	334	702	64	200	60	
North Fork inflow to aMcKay's Point Dam	224	503	34	125	56	
Total inflow to Melones Reservoir	713	1,710	116	410	58	250-660
Tuolumne River						
Cherry Creek and Eleanor Creek near Hetch Hetchy	322	727	97	200	62	
Tuolumne River near Hetch Hetchy	606	1,392	153	420	69	
Total inflow to Don Pedro Reservoir	1,200	2,682	301	790	66	540-1,200
Merced River						
Merced River at Pohono Bridge	362	888	80	250	69	
Total inflow to Exchequer Reservoir	617	1,587	123	410	66	290-650
San Joaquin River						
San Joaquin River at Mammoth Pool (2)	1,014	2,279	235	660	65	
Big Creek below Huntington Lake (2)	95	264	11	60	63	
South Fork near Florence Lake (2)	202	511	58	140	69	
Total inflow to Millerton Lake	1,228	3,355	262	780	64	500-1,230
San Joaquin River near Vernalis						
TULARE LAKE BASIN						
Kings River						
North Fork Kings River near Cliff Camp	239	565	50	150	63	
Total inflow to Pine Flat Reservoir	1,203	3,114	273	710	59	470-1,100
Kaweah River at Terminus Reservoir	284	814	61	160	56	110-280
Tule River at Success Reservoir	63	256	2	24	38	15-55
Kern River						
Kern River near Kernville	373	1,203	83	200	54	
Total inflow to Isabella Reservoir	461	1,657	84	230	50	180-450

(1) All 50-year averages are based on data for water years 1941-1990 except:
(2) 45-year average based on years 1936-80. (4) 36-year average based on years 1936-71.
(3) 44-year average based on years 1936-79. (5) See inside back cover for definition of unimpaired runoff and 80 percent probability ranges.

FORECASTS OF WATER YEAR UNIMPAIRED RUNOFF FOR CENTRAL VALLEY STREAMS MARCH 1, 1992

Water Year October through September Unimpaired Runoff in 1,000's Acre-Feet												
HISTORICAL			*	*	DISTRIBUTION						FORECASTS	
50 Year Average	Maximum of Record	Minimum of Record	October through January	February	March	April	May	June	July	August and September	Water Year Forecast	Percent of Average
856	1,964	165										
1,244	2,353	577										
3,145	5,150	1,484										
5,987	10,796	2,479	805	760	600	450	330	240	200	335	3,720 (3,200-4,900)	62
8,664	17,180	3,294	1,080	1,300	800	580	450	320	250	400	5,180 (4,450-6,950)	60
780	1,269	366										
2,417	4,400	666										
219	637	24										
291	562	32										
4,617	9,492	994	310	380	430	460	370	170	100	130	2,350 (1,740-3,500)	51
564	1,056	102										
181	292	30										
379	565	98										
2,390	4,926	369	120	240	230	280	270	90	20	20	1,270 (920-1,950)	53
616	1,234	66										
1,070	2,575	144										
318	705	59										
2,736	6,381	349	100	230	250	330	270	90	20	10	1,300 (910-2,100)	48
												55
385	1,253	20	7	40	32	35	20	4	1	1	140 (90-260)	36
626	1,009	197										
748	1,800	129	32	37	48	110	135	30	5	3	400 (300-600)	53
471	929	88										
1,150	2,952	155	58	72	85	150	180	60	20	5	630 (430-930)	55
461	1,147	123										
770	1,661	258										
1,882	4,430	383	83	94	150	260	350	150	30	13	1,130 (830-1,620)	60
461	1,020	92										
966	2,859	150	36	54	80	140	180	70	20	10	590 (430-880)	61
1,337	2,964	308										
112	298	14										
248	653	71										
1,776	4,642	362	70	70	110	200	320	200	60	30	1,060 (730-1,600)	60
												59
284	607	58										
1,669	4,294	383	70	50	90	180	300	190	40	30	950 (670-1,400)	57
444	1,402	92	19	13	25	50	70	35	5	3	220 (150-360)	50
145	615	16	6	7	12	12	8	3	1	1	50 (30-100)	34
558	1,577	163										
717	2,309	175	45	20	40	70	90	50	20	25	360 (280-640)	50

* Unimpaired runoff to date

FORECASTS OF APRIL-JULY UNIMPAIRED RUNOFF FOR SELECTED CALIFORNIA STREAMS

MARCH 1, 1992

DRAINAGE BASIN AND WATERSHED	April through July Unimpaired Runoff in 1,000 Acre-Feet				
	HISTORICAL			FORECASTS	
	50 Year Average(1)	Maximum of Record	Minimum of Record	April-July Forecast	Percent of Average
NORTH COAST AREA					
Trinity River at Lewiston	653	1,593	80	450	69
Scott River at Ft. Jones	200	*	*	120	60
Upper Klamath Lake(1)(2)(5)	521	1,151	177	175	34
LAHONTAN AREA					
Truckee River, Lake Tahoe to Farad accretion	268	713	58	110	41
Lake Tahoe Rise in feet (assuming gates closed)	1.5	3.75	0.23	0.4	27
East Carson River near Gardnerville	186	407	43	100	54
West Carson River at Woodfords	54	131	12	30	56
East Walker River near Bridgeport	63	209	7	24	38
West Walker River near Coleville	148	330	35	90	61
Owens River(3)	233	579	96	160	69

(1)Forecast period of April-September

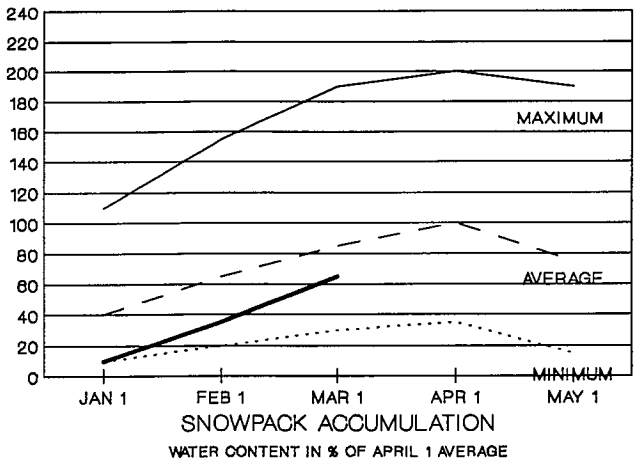
(2)Forecast by U.S. Soil Conservation Service, Portland, Or.

(3)Forecast by Dept. of Water and Power, City of Los Angeles

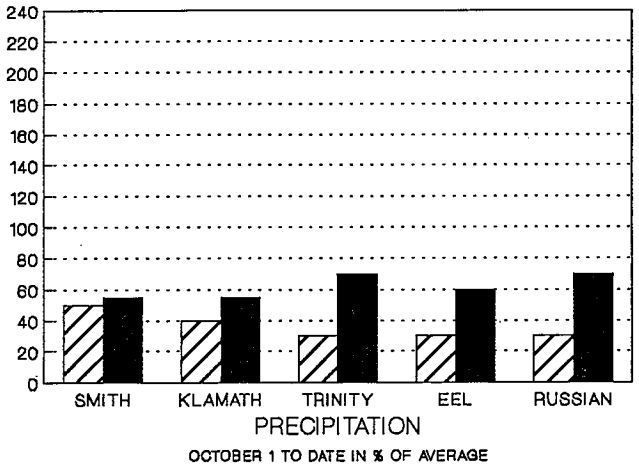
(4)Inside back cover for definition of unimpaired runoff.

(5)Average period of 25 years

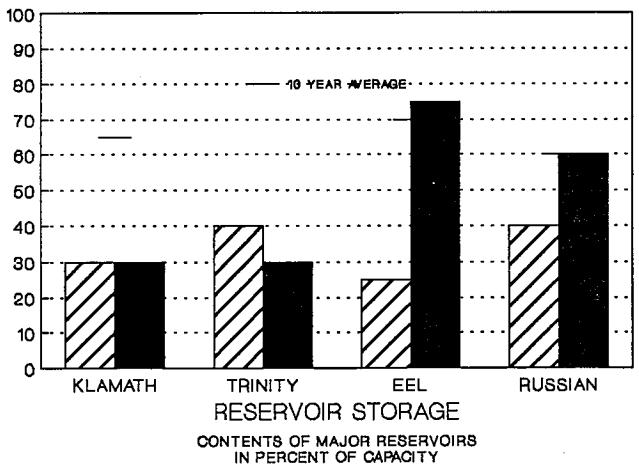
NORTH COAST AREA



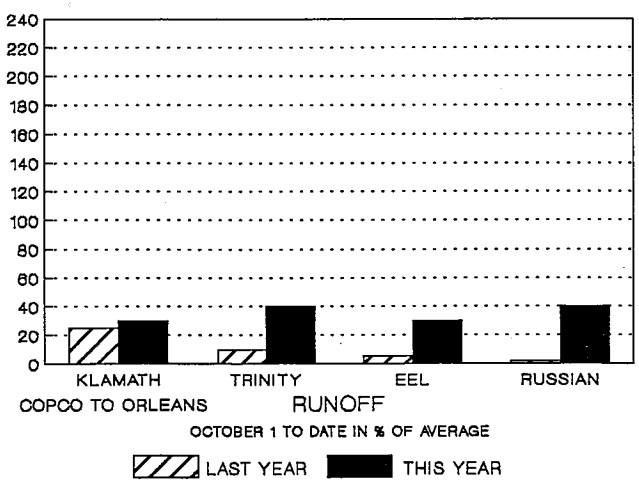
<u>SNOWPACK</u> - First of the month measurements made at 13 snow courses indicate an area wide snow water equivalent of 20.7 inches. This is percent of the 75 percent of the March 1 average and 65 percent of the seasonal (April 1) average. Last year at this time the pack was holding 5.2 inches of water.



<u>PRECIPITATION</u> - Seasonal precipitation (October 1 through the end of last month) on this area was 60 percent of normal. Precipitation last month was about 120 percent of the monthly average. Seasonal precipitation at this time last year stood at 35 percent of normal.

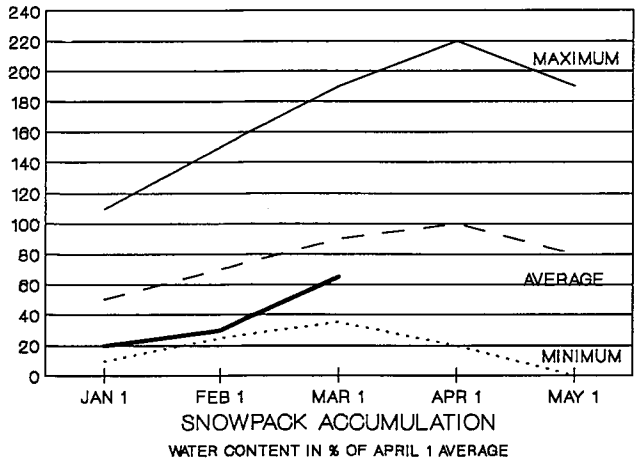


<u>RESERVOIR STORAGE</u> - First of the month storage in 7 reservoirs was 1.1 million acre-feet which is 45 percent of average. About 35 percent of available capacity was being used. Storage in these reservoirs at this time last year was 55percent of average.



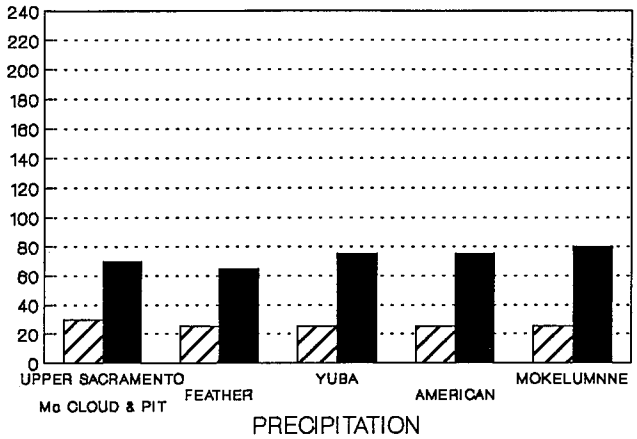
<u>RUNOFF</u> - Seasonal runoff of streams draining the area totaled 2.4 million acre-feet which is 30 percent of average for this period. Last year, runoff for the same period was 10 percent of average.

SACRAMENTO BASIN



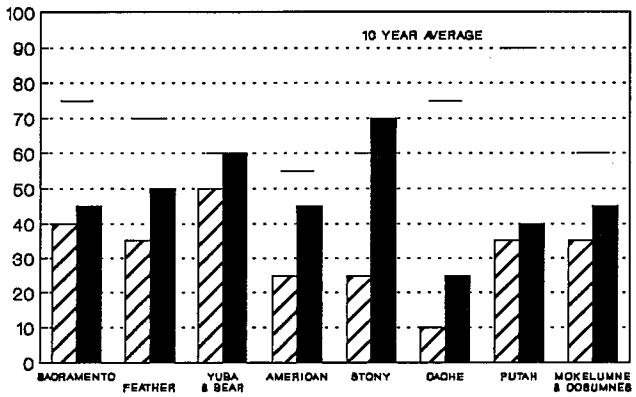
SNOWPACK ACCUMULATION
WATER CONTENT IN % OF APRIL 1 AVERAGE

SNOWPACK - First of the month measurements made at 69 snow course indicate a basin-wide snow water equivalent of 22.3 inches. This is 75 percent of the average for this date and 65 percent for April 1. Last year at this time, the pack was holding 3.4 inches of water.



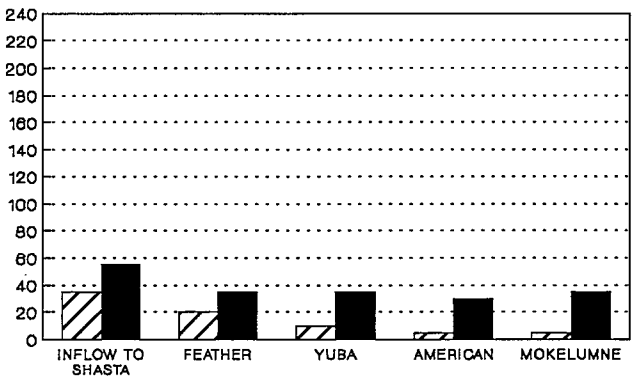
PRECIPITATION
OCTOBER 1 TO DATE IN % OF AVERAGE

PRECIPITATION - Seasonal precipitation (October 1 through the end of last month) on the Sacramento Basin was 75 percent of normal. Precipitation last month was about 150 percent of the monthly average. Seasonal precipitation at this time last year stood at 30 percent of average.



RESERVOIR STORAGE
CONTENTS OF MAJOR RESERVOIRS IN PERCENT OF CAPACITY

RESERVOIR STORAGE - First of the month storage in 43 reservoirs was 7.6 million acre-feet which is 65 percent of average. About 45 percent of available capacity was being used. Storage in these reservoirs was about 50 percent of average at this time last year.

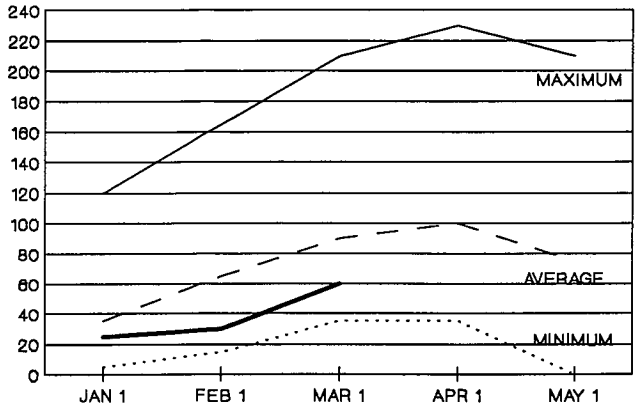


RUNOFF
OCTOBER 1 TO DATE IN % OF AVERAGE

LAST YEAR THIS YEAR

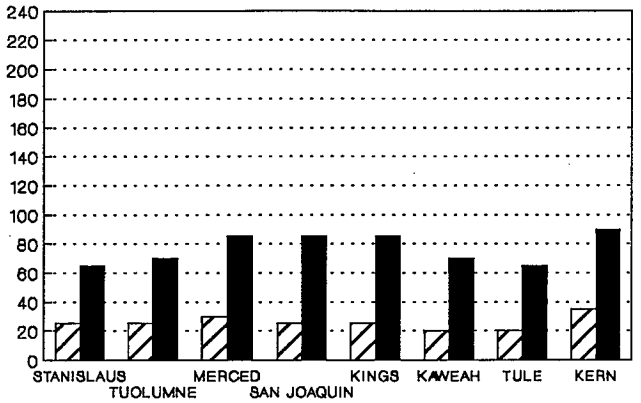
RUNOFF - Seasonal runoff from streams draining into the basin totaled 3.8 million acre-feet which is 45 percent of average for this period. Last year runoff for the same period was 20 percent of average.

The Sacramento River Index for the year is forecast at 10.1 million acre-feet assuming median meteorological conditions for the remainder of the year. This continues to classify the year as "critical" in the Sacramento-San Joaquin Delta according to the State Water Resources Control Board's Decision 1485. The SRI at this time last year was forecasted to be 5.5 million acre-feet.



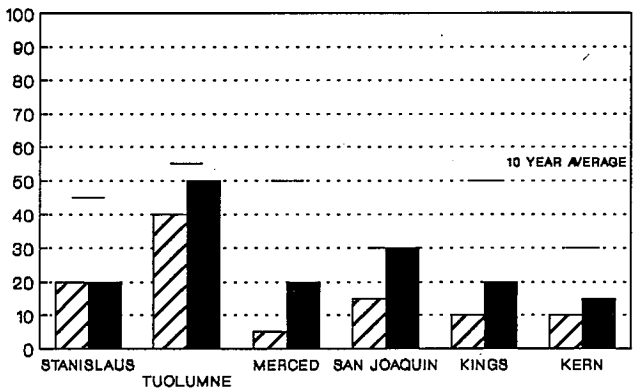
SNOWPACK ACCUMULATION

WATER CONTENT IN % OF APRIL 1 AVERAGE



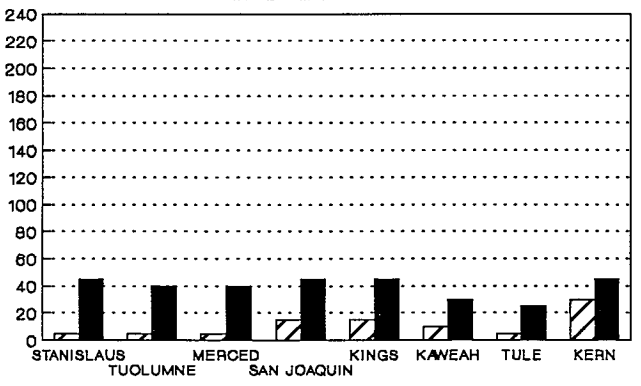
PRECIPITATION

OCTOBER 1 TO DATE IN % OF AVERAGE



RESERVOIR STORAGE

CONTENTS OF MAJOR RESERVOIRS IN PERCENT OF CAPACITY



RUNOFF

OCTOBER 1 TO DATE IN % OF AVERAGE

LAST YEAR THIS YEAR

SAN JOAQUIN AND TULARE LAKE BASINS

SNOWPACK - First of the month measurements made at San Joaquin Basin snow courses indicate a basin wide snow water equivalent of 18.8 inches which is 65 percent of the seasonal (April 1) average. Last year at this time, the pack was holding 3.8 inches of water.

At the same time, 38 Tulare Lake Basin snow courses indicated a basin-wide snow water equivalent of 12.2 inches which is 60 percent of the average for this date and 55 percent of the seasonal average. Last year at this time, the Basin was holding 2.1 inches of water.

PRECIPITATION - Seasonal precipitation (October 1 through the end of last month) on the San Joaquin Basin was 80 percent of normal. Precipitation last month was 145 percent of the monthly average. Seasonal precipitation at this time last year stood at 30 percent of normal.

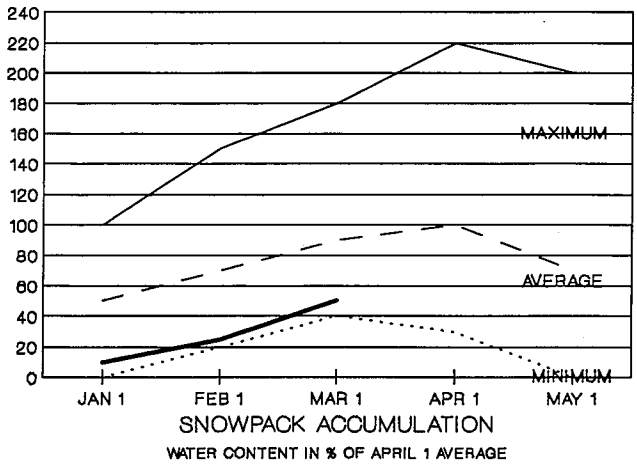
Seasonal precipitation on the Tulare Lake Basin was 85 percent of normal. Precipitation last month was 140 percent of the monthly average. Seasonal precipitation at this time last year stood at 30 percent of normal.

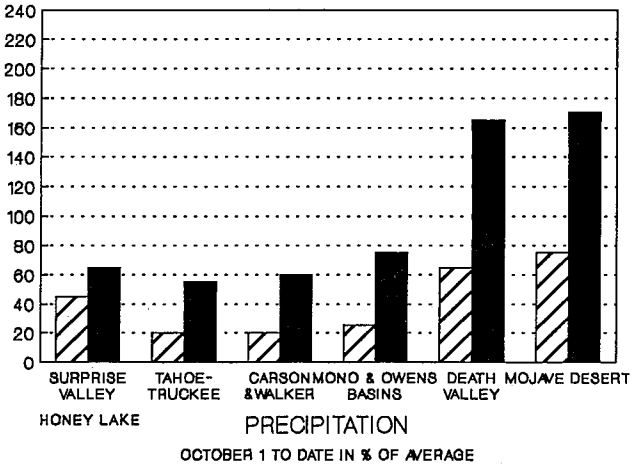
RESERVOIR STORAGE - First of the month storage in 33 San Joaquin Basin reservoirs was 4.5 million acre-feet which is 65 percent of average. About 40 percent of available capacity was being used. Storage in these reservoirs at this time last year was 45 percent of average.

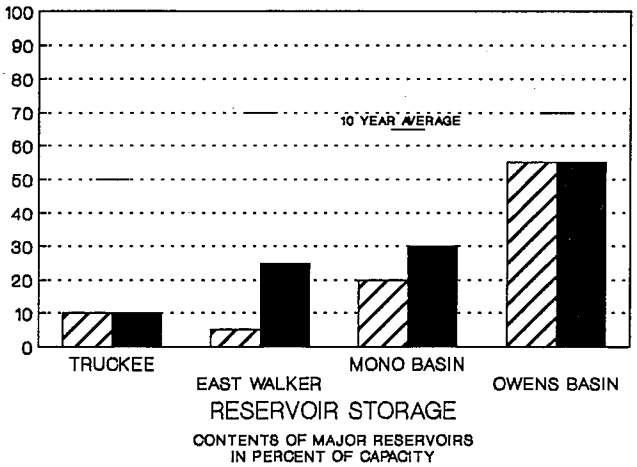
First of the month storage in 6 Tulare Lake Basin reservoirs was 364 thousand acre-feet which is 45 percent of average. About 20 percent of available capacity was being used. Storage in these reservoirs at this time last year was 20 percent of average.

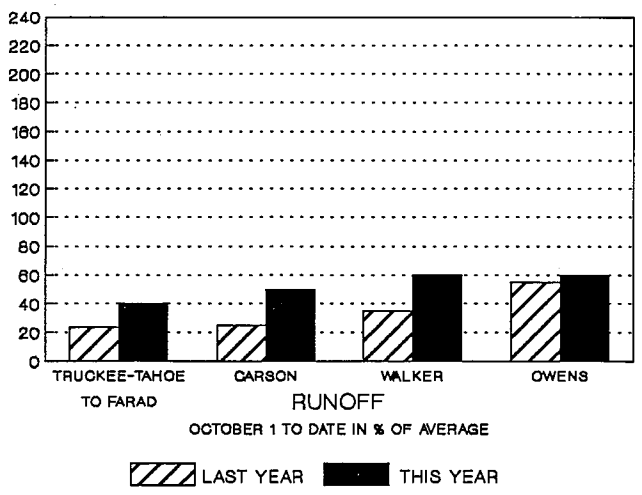
RUNOFF - Seasonal runoff of streams draining into the San Joaquin Basin totaled 651 thousand acre-feet which is 40 percent of average for this period. Last year, runoff for this same period was 5 percent of average.

Seasonal runoff of streams draining into the Tulare Lake Basin totaled 237 thousand acre-feet which is 40 percent of average for this period. Last year, runoff for this same period was 20 percent of average.









NORTH AND SOUTH LAHONTAN AREA

SNOWPACK - First of the month measurements made at 15 North Lahontan snow courses indicate an area wide snow water equivalent of 17.2 inches which is 55 percent of average for this date and 50 percent of the seasonal (April 1) average. Last year at this time, the pack was holding 3.2 inches of water.

At the same time, 17 South Lahontan courses indicated an area-wide snow water equivalent of 13.5 inches which is 60 percent of the average for this date. Last year at this time, the pack was holding 1.6 inches of water.

PRECIPITATION - Seasonal precipitation (October 1 through the end of last month) over the North Lahontan area was 55 percent of normal. Precipitation last month was 70 percent of the monthly average. Seasonal precipitation at this time last year stood at 30 percent of normal.

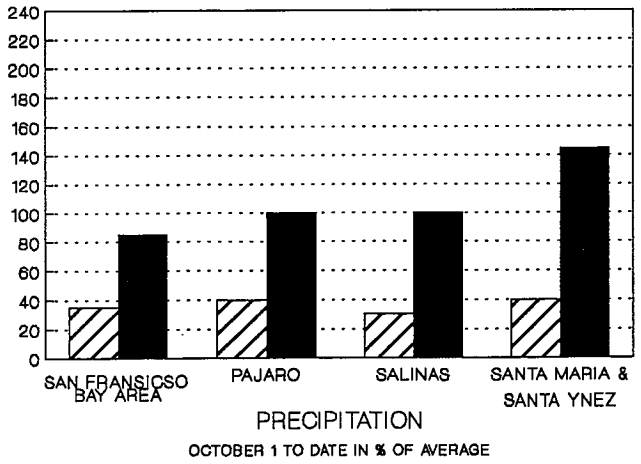
Seasonal precipitation over the South Lahontan area was 120 percent of normal. Last month's precipitation was 235 percent of the monthly average. Seasonal precipitation at this time last year stood at 50 percent of normal.

RESERVOIR STORAGE - First of the month storage in 5 North Lahontan reservoirs was 107 thousand acre-feet which is 15 percent of average. About 10 percent of available capacity was being used. Storage in these reservoirs at this time last year was 15 percent of average. Lake Tahoe was 1.4 feet below its natural rim on March 1.

First of the month storage in 8 South Lahontan reservoirs was 236 thousand acre-feet which is 80 percent of average. About 60 percent of available capacity was being used. Storage in these reservoirs at this time last year was 30 percent of average.

RUNOFF - Seasonal runoff of streams drainng the North Lahontan area totaled 99 thousand acre-feet which is 50 percent of average for this period. Last year, runoff for this same period was 30 percent of average.

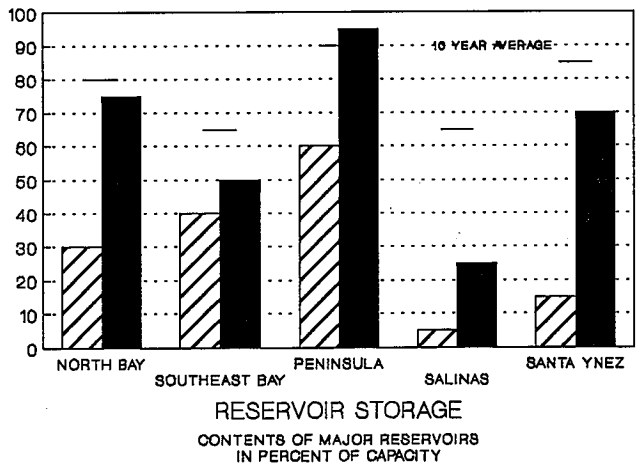
Seasonal runoff of the Owens River in the South Lahontan area totaled 30 thousand acre-feet which is 60 percent of average for this period. Last year, runoff for this same period was 55 percent of average.



SAN FRANCISCO AND CENTRAL COAST AREAS

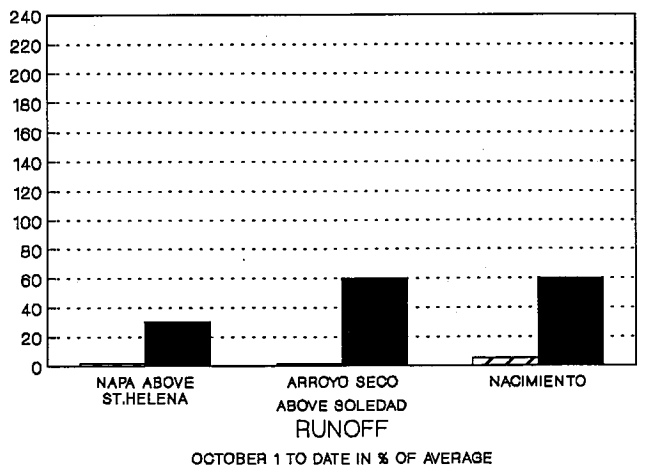
PRECIPITATION - Seasonal precipitation (October 1 through the end of last month) on the San Francisco Bay area was 85 percent of normal. Precipitation last month was 195 percent of the monthly average. Seasonal precipitation at this time last year stood at 35 percent of normal.

Seasonal precipitation on the Central Coast area averaged 115 percent of normal. Precipitation last month was 225 percent of the monthly average. Seasonal precipitation at this time last year stood at 35 percent of normal.



RESERVOIR STORAGE - First of the month storage in 18 major Bay area reservoirs was 409 thousand acre-feet which is 80 percent of average. About 60 percent of available capacity was being used. Storage in these reservoirs at this time last year was 55 percent of average.

First of the month storage in 6 major Central Coast reservoirs was 330 thousand acre-feet which is 50 percent of average. About 35 percent of available capacity was being used. Storage in these reservoirs at this time last year was 15 percent of average.



RUNOFF - Seasonal runoff of the Napa River in the San Francisco Bay area totaled 14 thousand acre-feet which is 30 percent of average for this period. Last year, runoff for this same period was less than 5 percent of average.

Seasonal runoff of selected Central Coast streams totaled 131 thousand acre-feet which is 60 percent of average for this period. Last year, runoff for this same period was less than 5 percent of average.

LAST YEAR THIS YEAR

SOUTH COAST AND COLORADO RIVER AREAS

PRECIPITATION - Seasonal precipitation (October through the end of last month) on the South Coast was 125 percent of normal. February precipitation was 240 percent of the monthly average. Seasonal precipitation at this time last year stood at 45 percent of normal.

Seasonal precipitation in the Colorado Desert area was 155 percent of normal. Seasonal precipitation at this time last year was 85 percent of the average.

RUNOFF - Seasonal runoff from selected South Coast streams totaled 38 thousand acre-feet which is 125 percent of average. Last year, runoff for the same period was 10 percent of average.

RESERVOIR STORAGE - March 1 storage in 29 major South Coast area reservoirs was 1.4 million acre-feet or 110 percent of average. About 75 percent of available capacity was being used. Storage in these reservoirs at this time last year was 90 of average.

First of the month combined storage in Lakes Powell, Mead, Mohave and Havasu was about 36.6 million acre-feet which is nearly average. About 70 percent of available capacity was being used. One year ago, these reservoirs were storing 37.6 million acre-feet. The April through July inflow to Lake Powell is forecasted to be 5.5 million acre-feet which will be 68 percent of average.

UPPER COLORADO RIVER BASIN - The first of the month snowpack, according to the U.S. Soil Conservation Service reports was 80 percent of average and ranges from 80 percent in the Green River Basin to 100 percent in the Upper San Miguel.

CENTRAL VALLEY PROJECT

Due to the heavy amounts of precipitation during February, water year forecasts for runoff into CVP reservoirs now range from 48 to 68 percent of average. As of February 29, 1992, CVP storage was 4.4 million acre-feet which is an increase of 1.1 million acre-feet over the September 30, 1991 carryover storage and is approximately 60 percent of normal for this date.

On the basis of the March 1 conditions, the CVP announced a revision in the declaration of available CVP water supplies. Agricultural contractors will now receive a 15 percent supply, Sacramento River water rights holders and San Joaquin exchange contractors will get 75 percent, and urban contractors will get 50 percent in addition to hardship considerations. The Friant Division water supply is increased to 82 percent Class 1, 0 percent Class II, which is 44 percent of historic average deliveries.

STATE WATER PROJECT

On March 1, conservation storage (Oroville plus the State's share of San Luis) was 2.2 million acre-feet, or almost 50 percent of capacity. The SWP also has about 250 thousand acre-feet in groundwater storage south of the Delta. Initial delivery approvals to SWP contractors of 20 percent were made in December, 1991. An assessment is being made of the improved water supply in hopes of increasing current water delivery allocations.

MAJOR WATER DISTRIBUTION PROJECTS

RESERVOIR STORAGE

(AVERAGES BASED ON PERIOD RECORD)

RESERVOIR	CAPACITY 1,000 AF	AVERAGE STORAGE 1,000 AF	STORAGE AS OF FEBRUARY 29 1991 1,000 AF	1992 1,000 AF	PERCENT AVERAGE
STATE WATER PROJECT					
Oroville	3,540	2,660	938	1,535	58
San Luis SWP	1,060	940	94	695	74
Lake Del Valle	77	33	37	34	102
Silverwood	73	66	67	71	107
Pyramid Lake	171	162	167	162	100
Castaic Lake	324	263	168	310	118
Perris Reservoir	132	114	125	125	109
CENTRAL VALLEY PROJECT					
Clair Engle Lake	2,450	1,939	961	684	35
Shasta Lake	4,550	3,446	1,543	1,966	57
Whiskeytown	241	208	187	209	101
Folsom	975	590	167	502	85
New Melones	2,420	1,669	373	374	22
Millerton Lake	521	309	183	283	92
San Luis CVP	980	767	588	698	91
COLORADO RIVER PROJECT					
Lake Mead	26,300	19,709	20,149	20,065	101
Lake Powell	25,000	15,070	15,241	13,745	91
Lake Mojave	1,810	1,639	1,703	1,654	101
Lake Havasu	619	537	552	549	102
EAST BAY MUNICIPAL UTILITY DISTRICT					
Pardee	210	177	137	200	113
Camanche	432	263	140	126	48
East Bay (4 reservoirs)	151	129	123	123	95
CITY & COUNTY OF SAN FRANCISCO					
Hetch Hetchy	360	133	25	125	94
Cherry Lake	269	105	27	94	90
Lake Eleanor	28	10	1	3	30
South Bay (4 reservoirs)	223	172	78	144	84
CITY OF LOS ANGELES(DWP)					
Crowley Lake(Long Valley)	183	122	103	118	97
Grant Lake	48	23	11	16	51
Other Aqueduct Storage(6 reservoirs)	95	70	71	52	107

DEPARTMENT OF WATER RESOURCES - CALIFORNIA DATA EXCHANGE CENTER
TELEMETERED SNOW WATER EQUIVALENTS - FEBRUARY 28, 1992

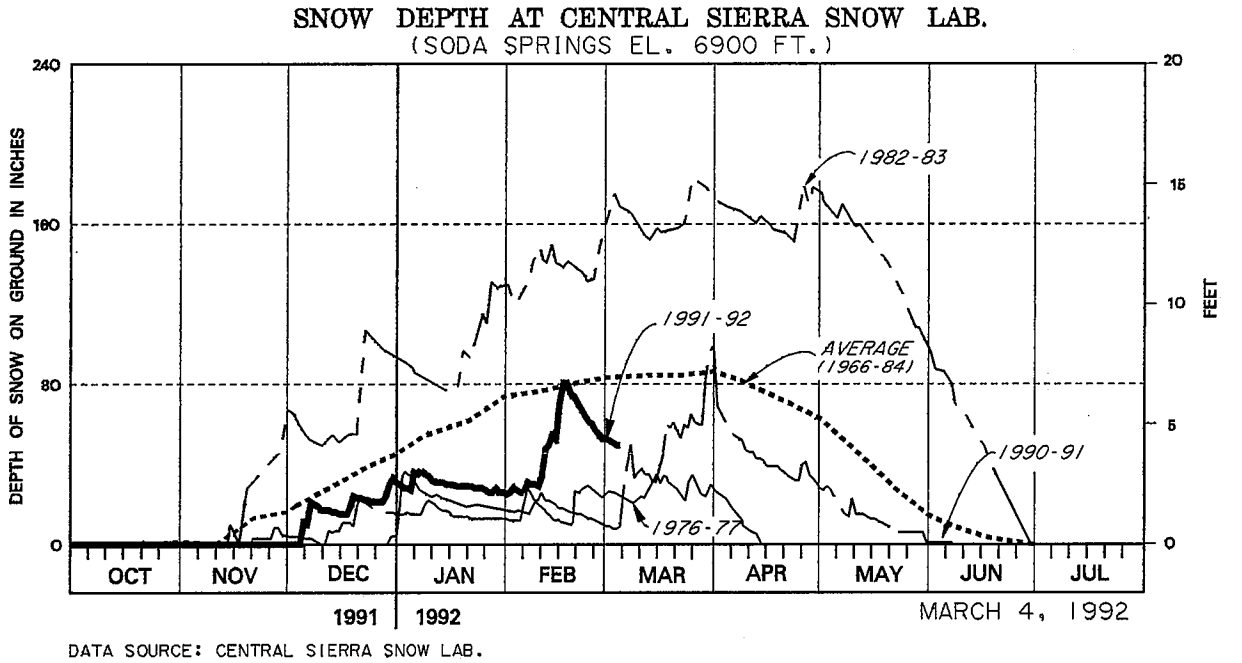
BASIN NAME / STATION NAME	AGENCY	ELEV FEET	APR 1 AVG	TODAY	INCHES OF WATER EQUIVALENT PERCENT OF APR 1	24 HRS AGO	1 WEEK AGO
TRINITY RIVER							
PETERSON FLAT	USBR	7150	----	22.4	----	22.3	21.8
RED ROCK MOUNTAIN	USBR	6700	39.6	37.2	94%	37.2	36.6
BONANZA KING	USBR	6450	40.5	28.7	71%	29.1	28.4
SHIMMY LAKE	USBR	6200	40.3	----	----	38.6	38.6
MIDDLE BOULDER #3	USBR	6200	28.3	22.9	81%	----	24.2
HIGHLAND LAKES	USBR	6030	29.9	----	----	38.6	38.3
SCOTTS MOUNTAIN	USBR	5900	----	20.9	----	----	19.9
MUMBO BASIN	USBR	5700	22.4	20.4	91%	20.6	20.5
BIG FLAT	USBR	5100	----	13.2	----	13.2	13.4
SACRAMENTO RIVER							
CEDAR PASS	SCS	7100	18.1	6.4	35%	6.5	6.2
BLACKS MOUNTAIN	DWR	7100	----	6.7	----	6.7	7.0
SAND FLAT	USBR	6750	42.4	27.6	65%	----	----
MEDICINE LAKE	USBR	6700	----	14.4	----	14.3	13.2
ADIN MOUNTAIN	SCS	6350	13.6	5.3	39%	5.2	4.4
SNOW MOUNTAIN	USBR	5950	27.0	16.5	61%	16.7	17.7
SLATE CREEK	USBR	5600	29.0	----	----	----	----
STOUTS MEADOW	USBR	5400	36.0	28.9	80%	----	28.3
FEATHER RIVER							
KETTLEROCK	DWR	7300	25.5	11.8	46%	12.1	12.4
GRIZZLY	DWR	6900	29.7	13.2	44%	13.6	13.8
PILOT PEAK	DWR	6800	52.6	19.4	37%	19.6	20.6
GOLD LAKE	DWR	6750	36.5	22.0	60%	22.0	21.6
HUMBUG	DWR	6500	28.0	26.3	94%	26.4	28.0
RATTLESNAKE	DWR	6100	14.0	12.6	90%	12.7	13.4
BUCKS LAKE	DWR	5750	44.7	36.8	82%	37.0	36.8
FOUR TREES	DWR	5150	20.0	23.9	119%	24.0	25.8
YUBA & AMERICAN RIV							
LAKE LOIS	DWR	8800	----	28.1	----	26.8	27.5
SCHNEIDERS	SMUD	8750	34.5	19.8	57%	19.8	----
CAPLES LAKE COURSE	USBR	7800	30.9	13.8	45%	13.9	14.4
ALPHA	SMUD	7600	35.9	19.2	53%	19.3	19.6
BETA	DWR	7600	----	15.1	----	15.1	15.2
FORNI RIDGE	USBR	7600	37.0	9.9	27%	9.9	9.6
SILVER LAKE	USBR	7100	22.7	11.2	49%	11.4	11.6
CENT SIERRA SNOW LAB	USFS	6950	33.6	17.3	51%	17.5	18.2
HUYSINK	USBR	6600	42.6	17.5	41%	17.5	17.5
VAN VLECK	SMUD	6700	35.9	18.6	52%	18.7	19.1
ROBBS SADDLE	SMUD	5900	21.4	14.6	68%	14.8	15.6
GREEK STORE	USBR	5600	21.0	19.7	94%	20.3	20.9
BLUE CANYON	USBR	5280	9.0	.0	0%	.0	2.6
ROBBS POWERHOUSE	SMUD	5150	5.2	5.7	110%	6.0	7.7
MOKEL. & STANIS. RIV							
DEADMAN CREEK	USBR	9250	37.2	15.0	40%	14.9	14.0
HIGHLAND MEADOW	USBR	8800	47.9	----	----	26.0	25.2
GIANELLI MEADOW	USBR	8350	55.5	23.8	43%	23.8	23.0
LOWER RELIEF VALLEY	DWR	8100	41.2	21.0	51%	21.2	21.0
BLUE LAKES	SCS	8000	33.1	17.7	53%	17.7	17.0
MUD LAKE	SMUD	7900	44.9	27.2	61%	27.2	27.5
STANISLAUS MEADOW	USBR	7750	47.5	22.3	47%	22.3	21.6
BLOODS CREEK	USBR	7200	35.5	17.3	49%	17.3	16.9
BLACK SPRINGS	USBR	6500	32.0	17.9	56%	17.9	17.9
TUOLUMNE & MERCED R.							
DANA MEADOWS	DWR	9800	27.7	15.8	57%	15.8	15.8
SLIDE CANYON	DWR	9200	----	19.0	----	20.0	19.2
SNOW FLAT	DWR	8700	44.1	22.9	52%	22.8	23.5
TUOLUMNE MEADOWS	DWR	8600	22.6	9.1	40%	9.1	8.6
HORSE MEADOW	DWR	8400	48.6	22.9	47%	22.9	21.0
OSTRANDER LAKE	DWR	8200	34.8	19.6	56%	19.6	19.6
PARADISE	DWR	7650	----	18.0	----	18.7	20.0
GIN FLAT	DWR	7050	34.2	17.3	51%	17.5	18.7
LOWER KIBBIE	DWR	6600	27.4	14.1	51%	14.1	15.1
SAN JOAQUIN RIVER							
VOLCANIC KNOB	USBR	10100	30.1	15.0	50%	15.0	14.4
AGNEW PASS	USBR	9450	32.3	16.3	50%	16.3	16.3
KAISER POINT	USBR	9200	37.8	18.3	48%	18.3	17.1
GREEN MOUNTAIN	USBR	7900	30.8	16.5	54%	16.5	16.5

DEPARTMENT OF WATER RESOURCES - CALIFORNIA DATA EXCHANGE CENTER
TELEMETERED SNOW WATER EQUIVALENTS - FEBRUARY 28, 1992

BASIN NAME / STATION NAME	AGENCY	ELEV FEET	APR 1 AVG	TODAY	INCHES OF WATER EQUIVALENT PERCENT OF APR 1	24 HRS AGO	1 WEEK AGO
TAMARACK SUMMIT	USBR	7600	30.5	20.7	68%	20.7	20.7
CHILKOOT MEADOW	USBR	7150	38.0	24.0	63%	24.0	24.0
HUNTINGTON LAKE	USBR	7000	20.1	16.9	84%	16.9	16.9
GRAVEYARD MEADOW	USBR	6900	18.8	12.2	65%	12.6	13.2
POISON RIDGE	USBR	6900	28.9	25.6	89%	25.8	26.8
KINGS RIVER							
BISHOP PASS	DWR	11200	----	12.4	----	13.7	13.1
CHARLOTTE LAKE	DWR	10400	----	11.8	----	11.6	11.2
STATE LAKES	USCE	10400	29.0	10.9	38%	10.9	10.0
MITCHELL MEADOW	USCE	10375	32.9	18.1	55%	18.1	17.8
BLACKCAP BASIN	USBR	10300	34.3	----	----	----	4.6
UPPER BURNT CORRAL	DWR	9700	34.6	22.2	64%	22.2	22.2
WEST WOODCHUCK MDW	USCE	9100	32.8	12.7	39%	12.6	12.2
BIG MEADOWS	DWR	7600	25.9	14.5	56%	14.5	14.6
KAWEAH & TULE RIVERS							
QUAKING ASPEN	DWR	7200	21.0	14.5	69%	14.6	14.6
GIANT FOREST	USCE	6400	10.0	5.9	59%	6.4	7.2
KERN RIVER							
UPPER TYNDALL CREEK	USCE	11500	27.7	10.4	38%	10.4	10.4
CRABTREE	DWR	10700	19.8	6.0	30%	6.0	5.8
CHAGOOPA PLATEAU	DWR	10300	21.8	13.1	60%	13.1	13.1
PASCOES	USCE	9150	24.9	15.2	61%	15.0	14.8
TUNNEL	DWR	8950	15.6	6.2	40%	6.2	6.4
WET MEADOW	USCE	8900	30.3	15.3	50%	15.4	15.5
CASA VIEJA MDW	DWR	8400	20.9	11.1	53%	11.1	11.1
BEACH MEADOW	DWR	7650	11.0	----	----	----	.0
SURPRISE VALLEY AREA							
DISMAL SWAMP	SCS	7050	29.2	11.7	40%	11.9	12.1
TRUCKEE RIVER							
MOUNT ROSE SKI AREA	SCS	8850	38.5	18.4	48%	18.4	18.1
INDEPENDENCE LAKE	SCS	8450	41.4	18.1	44%	18.1	18.1
BIG MEADOWS	SCS	8700	25.7	7.1	28%	7.2	7.0
INDEPENDENCE CAMP	SCS	6500	21.8	10.1	46%	10.2	10.0
INDEPENDENCE CREEK	SCS	6500	12.7	6.9	54%	7.0	7.0
LAKE TAHOE BASIN							
HEAVENLY VALLEY	SCS	8800	28.1	12.3	44%	12.5	12.7
HAGANS MEADOW	SCS	8000	16.5	5.4	33%	5.7	6.5
MARLETTE LAKE	SCS	8000	21.1	9.4	45%	9.4	9.2
ECHO PEAK	SCS	7800	39.5	21.3	54%	21.3	21.2
RUBICON NO. 2	SCS	7500	29.1	10.0	34%	10.0	----
WARD CREEK NO. 3	SCS	6750	39.4	14.4	37%	14.6	----
FALLEN LEAF LAKE	SCS	6300	7.0	.9	13%	1.1	3.0
CARSON RIVER							
EBBETTS PASS	SCS	8700	38.8	18.5	48%	18.5	17.9
POISON FLAT	SCS	7900	16.2	9.4	58%	9.6	10.0
WALKER RIVER							
VIRGINIA LAKES RIDGE	SCS	9200	20.3	8.4	41%	8.4	8.5
LOBDELL LAKE	SCS	9200	17.3	9.7	56%	9.7	9.6
SONORA PASS BRIDGE	SCS	8750	26.0	13.5	52%	13.5	13.5
LEAVITT MEADOWS	SCS	7200	8.0	5.3	66%	5.4	5.9
OWENS RIVER/MONO LK.							
GEM PASS	LADWP	10750	31.7	18.9	60%	18.9	18.3
SAWMILL MEADOW	DWR	10300	19.4	11.1	57%	11.1	10.4
COTTONWOOD LAKES	LADWP	10200	11.6	7.7	66%	7.8	7.4
BIG PINE #3	LADWP	9800	17.9	7.2	40%	7.2	6.6
SOUTH LAKE	LADWP	9600	16.0	6.0	38%	6.0	5.9
MAMMOTH PASS (RP)	USBR	9500	42.4	21.3	50%	21.3	20.9
MAMMOTH PASS-6 TANKS	USBR	9500	----	18.7	----	18.7	18.3
ROCK CREEK	LADWP	8200	----	5.8	----	5.5	5.5

NORMAL SNOWPACK ACCUMULATION EXPRESSED AS A PERCENT OF APRIL 1ST AVERAGE

AREA	JANUARY	FEBRUARY	MARCH	APRIL	MAY
CENTRAL VALLEY NORTH	45	70	90	100	75
CENTRAL VALLEY SOUTH	45	65	85	100	80
NORTH COAST	40	60	85	100	80



❄ ❄ ❄ ❄ ❄ SNOWLINES ❄ ❄ ❄ ❄

Water Supply Production and Consumption - The disparity between California's water supply production and water use areas is graphically illustrated by these figures:

> The North Coast produces 40 percent of the State's runoff yet it accounts for only 2 percent of our agricultural use and only 3 percent of our urban consumption.
>
> The South Coast produces just 2 percent of our runoff and accounts for 50 percent of our urban water use and 3 percent of our agricultural water use.

California Snowfall - California snowfall can be pretty impressive when compared with similar records for the United States and North America. For example, the greatest 24 hour snowfall in California was 67.0 inches at the Sierra Ski Ranch on January 5, 1982. This is just 8.8 inches under the North American record which occurred at Silver Lake, Colorado on April 14-15, 1921. Record one month snowfall in North America, 390.0 inches was experienced at Tamarack, California during January, 1911. Tamarack had 884.0 inches of snow during the winter of 1906-07. The North American seasonal record is 1122.0 inches which occurred at the Rainier Paradise Ranger Station in Washington during the 1971-72 season.

Photographs Wanted - The Snow Surveys Office needs new photographs to be used as bulletin covers. The pictures should relate to snow or snow surveying and should be somewhat contrasty and without large white areas. If you have such pictures and would like to be a published photographer contact Dave Hart at 916-653-4541. We will credit you and your organization.

SNOWPACK- Snow data is a major index of spring and summer runoff from Sierra Nevada watersheds. April 1 data historically reflects the magnitude of the snowpack at or near the maximum seasonal accumulation. Averages are based on April 1 data for the period 1941-1990 (50 years, except for data sites established after 1941.)

PRECIPITATION- Averages are based on the period 1941-1990 (50 years, except for data sites established after 1931.)

RUNOFF AND FORECASTS- Runoff data and runoff forecasts are shown as unimpaired values. Unimpaired runoff represents the natural water production of a river basin, unaltered by upstream diversions, storage, or by export or import of water to or from other watersheds. Forecast of runoff assumes median conditions subsequent to the date of forecast.

Runoff probability ranges are statistically derived from historical data. The 80 percent probability range is comprised of the 90 percent exceedence level value and the 10 percent exceedence level value. This means that actual runoff should fall within the stated limits eight times out of ten.

Runoff averages for most streams are based on the 50 year period (1941-1990). For more details, contact California Cooperative Snow Surveys, P.O. Box 942836, Sacramento, CA 94236-0001, (916) 445-2196.

On the Front Cover

USFS snow surveyors Dan Ballard, Mark Vardenega and Larry Wright measure the Mount Shasta snow course in the Upper Sacramento Basin

Photo by Dave Hart

State of California—The Resources Agency
DEPARTMENT OF WATER RESOURCES
P.O. Box 942836
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FIRST CLASS